

We claim

1. A method of operating a mobile communications base station which receives multipath components of signals from a number of high mobility subscriber terminals, the method comprising:

5 for each subscriber terminal signal received, determining a best signal component;

 determining the difference in time between reception of said best signal component and a reference time;

10 transmitting to said terminal a transmission timing offset in order to receive said best component at substantially said reference time.

2. A method as claimed in claim 1 wherein said offset is in the form of a regular layer 1 timing alignment command having two or more offset absolute magnitude settings.

15 3. A method as claimed in claim 2 wherein the magnitude settings include a minimum setting of 1 microsecond.

20 4. A method as claimed in claim 1 wherein the best signal component is determined as that having the highest average value of a predetermined signal parameter over a predetermined time.

25 5. A method as claimed in claim 4 wherein the predetermined signal parameter is signal strength.

30 6. A method as claimed in claim 4 wherein the average value of said predetermined parameter for a number of signal components over a shortened predetermined period are stored, and wherein in the event of fast fading of the best signal component the signal component having the next highest average value over said shortened period is determined as the best signal component.

7. A method as claimed in claim 4 further comprising determining a new said best component only if said average value is a predetermined threshold above a current best component.

8. A method as claimed in claim 7 further comprising determining a new said best component only if said difference in time is above a predetermined threshold offset.

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9. A mobile communications base station which receives multipath components of signals from a number of high mobility subscriber terminals, the base station comprising:

means for determining a best signal component for each subscriber terminal;

10 means for determining the difference in time between reception of said best signal component and a reference time;

means for transmitting to said terminal a transmission timing offset in order to receive said best component at substantially said reference time.

15 10. A base station as claimed in claim 9 wherein said offset is in the form of a regular layer 1 timing alignment command having two or more offset absolute magnitude settings.

20 11. A base station as claimed in claim 10 wherein the magnitude settings include a minimum setting of 1 microsecond.

25 12. A base station as claimed in claim 9 wherein the best signal component is determined as that having the highest average value of a predetermined signal parameter over a predetermined time.

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13. A base station as claimed in claim 12 wherein the average value of said predetermined parameter for a number of signal components over a shortened predetermined period are stored, and wherein in the event of fast fading of the best signal component the signal component having the next highest average value over said shortened period is determined as the best signal component.

14. A method of operating a high mobility subscriber terminal comprising:
determining a transmission timing offset transmitted from a base station;
adjusting the transmission timing of said terminal according to said offset;

wherein said offset is in the form of a regular layer 1 timing alignment command having two or more absolute magnitude settings.

5 15. A method as claimed in claim 14 wherein the magnitude settings include a minimum setting of 1 microsecond.

16. A high mobility terminal for use in a mobile communications system, the terminal comprising:

10 means for determining a transmission timing offset transmitted from a base station;

 means for adjusting the transmission timing of said terminal according to said offset;

 wherein said offset is in the form of a regular layer 1 timing alignment command having two or more absolute magnitude settings.

15 17. A method as claimed in claim 16 wherein the magnitude settings include a minimum setting of 1 microsecond.

20 18. A mobile communications system having a number of high mobility terminals and a base station which receives multipath components of signals from said terminals; the base station comprising:

 means for determining a best signal component for each subscriber terminal;

 means for determining the difference in time between reception of said best signal component and on reference time;

25 means for transmitting to said terminal a transmission timing offset in order to receive said best component at substantially said reference time;

and the terminals comprising:

 means for determining a transmission timing offset transmitted from a base station;

30 means for adjusting the transmission timing of said terminal according to said offset.

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transmitting to said terminal a transmission timing offset in order to receive said best component at a predetermined time.

20. A method as claimed in claim 19, wherein said transmission timing offset transmitted to said terminal causes said best component to be received at substantially said reference time.